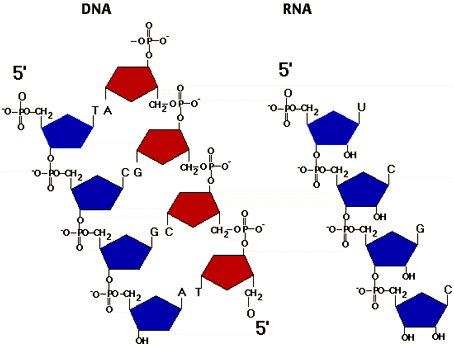
**Organic Reactions Worksheet**

1. Classify the following organic reactions:
   1. pent-2-ene + hydrogen gas 🡪 butane
   2. methanol + propanol 🡪 methoxy propane + water
   3. methyl butanoate + sodium hydroxide 🡪 sodium salt of butanoic acid +methanol
   4. benzene + iodine gas🡪 iodobenzene + hydrogen iodide
   5. but-2-ene + oxygen gas 🡪 carbon dioxide + carbon + water
   6. ethanol + KMnO4 🡪 ethanal + water
   7. hexanoic acid + dimethyl amine 🡪 N,N-dimethylhexanamide + water
   8. methane + hydrochloric acid 🡪 chloromethane + hydrogen gas
   9. ethyne + oxygen gas 🡪 carbon dioxide + water
   10. ethane + fluorine gas 🡪 fluoroethane + hydrogen fluoride
2. Draw structural or skeleton diagrams for the reactions below. Include names of reactants and products. If no reaction occurs, write “No Reaction”. If more than one product is possible indicate which the major and minor products.
   1. butanoic acid + methanol
   2. 2-bromoethane + potassium hydroxide
   3. Formation of a propanol from corresponding aldehyde
   4. Formation of N-ethylbutamine through hydrolysis
   5. Benzene + nitric acid
   6. Formation of 2- t-butylpentanoic acid through controlled oxidation
   7. Controlled oxidation of 2-methylpropan-2-ol
   8. propyne + water
   9. Formation of methylbenzene from benzene
   10. dimethylamine + iodomethane
   11. pentan-2-ol in presence of potassium chromate
   12. Formation of hex-2-ene from corresponding alcohol
   13. 3-isopropylhex-2-ene with hydrogen fluoride
   14. 3-methylbutan-2-one + hydrogen gas
   15. Formation of 1,2-dibromoethane from an alkene
3. You were asked to identify 4 chemical bottles because the labels have fallen off. The chemicals are butan-1-ol , butan-2-one , butanal and methyl propanoate. What 2 tests can be done to determine the correct labels? Explain how the results would indicate which chemical was which.
4. Write a series of equations to make butyl propanoate starting from 1-chlorobutane and propan-1-ol.
5. Draw 3 repeating unit of an addition polymerization of 2-chloropropene.
6. Which type of natural polymer is show here?



a) b) c)

